



<b>PRE-APPEAL BRIEF REQUEST FOR REVIEW</b>		Docket Number (Optional) 059643.00360
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]  on _____  Signature _____  Typed or printed Name _____	Application Number:  10/757,518	Filed: January 15, 2004
	First Named Inventor:  Pirjo PASANEN et al.	
	Art Unit: 2619	
	Examiner: Hooman Houshmand	

**Mail Stop AF**  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a Notice of Appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

- ☐ Applicant/Inventor.  
☐ assignee of record of the entire interest.  
See 37 CFR 3.71. Statement under  
37 CFR 3.73(b) is enclosed

☒ Attorney or agent of record.  
Registration No. 47,818

☐ Attorney or agent acting under 37 CFR 1.34.  
Reg. No. is acting under 37 CFR 1.34 \_\_\_\_\_

Signature

David D. Nelson

Typed or printed name

(703) 720-7876

Telephone number

June 25, 2008

Date

NOTE: Signatures of all of the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below\*.

☒ \*Total of 1 form is submitted.



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Pirjo PASANEN et al.

Art Unit: 2619

Application No.: 10/757,518

Examiner: Hooman Houshmand

Filed: January 15, 2004

Attorney Dkt. No.: 059643.00360

For: MULTI-USER MULTICARRIER ALLOCATION IN A COMMUNICATION SYSTEM

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450  
Sir:

June 25, 2008

In accordance with the Pre-Appeal Brief Conference Pilot Program guidelines set forth in the July 12, 2005 Official Gazette Notice, Applicants hereby submit this Pre-Appeal Brief Request for Review of the final rejections of claims 1, 12, 15, 18 and 21-53 in the above identified application. Claims 1, 12, 15, 18 and 21-53 were finally rejected in the Office Action dated January 11, 2008. Applicants filed a Response to the Final Office Action on May 1, 2008, and the Office issued an Advisory Action dated May 13, 2008 maintaining the final rejections of claims 1, 12, 15, 18 and 21-53. Applicants hereby appeal these rejections and submit this Pre-Appeal Brief Request for Review. It is requested that these rejections be withdrawn in view of certain clear legal and factual errors, as set forth below.

Claims 1, 12, 15, 18, and 21-53 were rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Publication No. 2004/0081131 (Walton). As described below, the rejection is in clear error since Walton fails to disclose each and every limitation of any of the pending claims. Therefore, withdrawal of this grounds of rejection and reconsideration of the pending claims are respectfully requested in view of the following explanations.

As described in Applicants' prior submissions, certain recited embodiments of the present application relate to allocating subcarriers in a multicarrier modulation communication system. Specifically, a plurality of sets of sequential subcarriers to a plurality of users are allocated such

that the size of a set of sequential subcarriers is greater than the smallest coherence bandwidth of the plurality of users.

In contrast, Walton generally relates to using orthogonal frequency division multiplexing (OFDM) symbols of different sizes to achieve greater efficiency for OFDM systems. The system traffic may be arranged into different categories (*e.g.*, control data, user data, and pilot data). For each category, one or more OFDM symbols of the proper sizes may be selected for use based on the expected payload size for the traffic in that category. For example, control data may be transmitted using OFDM symbols of a first size, user data may be transmitted using OFDM symbols of the first size and a second size, and pilot data may be transmitted using OFDM symbols of a third size or the first size.

Referring, for example, to claim 1, Walton fails to disclose or suggest, at least the recitation of “allocating a plurality of sets of sequential subcarriers in a multicarrier modulation communication system to a plurality of users, wherein the size of a set of sequential subcarriers is greater than the smallest coherence bandwidth of the plurality of users.” Walton discloses, for example, using OFDM symbols of different sizes to minimize cyclic prefix overhead and maximize packing efficiency (paragraph [0012] of Walton). Walton also discloses that for OFDMA, multiple users share the large OFDM symbol using frequency domain multiplexing. This is achieved by reserving a set of subbands for signaling and allocating different disjoint sets of subbands to different users. See paragraph [0010] of Walton. However, there is no teaching or suggestion in Walton of **allocating** a plurality of sets of sequential subcarriers in a multicarrier modulation communication system to a plurality of users, wherein the wherein the **size** of a set of sequential **subcarriers** is **greater** than the **smallest coherence bandwidth** of the plurality of **users**, as recited in the presently pending claims.

Thus, Applicants urge that Walton fails to disclose or suggest, at least, “allocating a plurality of sets of sequential subcarriers in a multicarrier modulation communication system to a plurality of users, wherein the size of a set of sequential subcarriers is greater than the smallest coherence bandwidth of the plurality of users,” as recited in claim 1 of the present application.

The Office Action and the Advisory Action allege that Walton, for example, at paragraphs [0031], [0032] and [0125], discloses the use of a set of subbands having a width greater than the smallest coherence bandwidth. Applicants have carefully reviewed these and

other sections of Walton and respectfully urge that this alleged interpretation of Walton is clearly technically and factually incorrect. Applicants note, for example, that Walton at paragraph Section [0032] states that "the largest OFDM symbol that may be used is typically constrained by the coherence time of the wireless channel, which is the time over which the wireless channel is essentially constant". The term "coherence time" used here should not be confused with the term "coherence bandwidth" used in claim 1 of the present application. Coherence time has, in principle, nothing to do with coherence bandwidth. The coherence time is the inverse of the Doppler spread, and is related to the motion of the mobile station. Coherence bandwidth is proportional to the inverse of the delay spread, and is thus related to multipath propagation in a channel, not to the movement of the mobile station. It is considered that the part of this section [0032] of Walton relating to coherence time has no relevance for the invention claimed in claim 1 of the present application, which defines the size of a carrier set in terms of coherence bandwidth.

Similarly, Walton at paragraph [0125] discloses using OFDM symbols of different sizes, but provides no disclosure that the size can exceed the coherence bandwidth. Applicants further note that Walton at paragraph [0125] teaches the use of relatively long sets of subbands of the same steering vector obtained for a relatively short set of subbands. Applicants therefore urge that paragraph [0125] of Walton contains no teaching or disclosure contrary to the above-described teaching of section [0032] that discloses using only a set of subbands having a bandwidth smaller than the coherence bandwidth. Furthermore, the last four lines of paragraph [0125] discloses that sets of subbands having a width close (but still less than) to the coherence bandwidth suffer degradation when the SNR is high. Therefore, this disclosure in paragraph [0125] of Walton clearly teaches using a set of subbands having a bandwidth much smaller than the coherence bandwidth. Therefore, the rejection is technically incorrect and clearly in error.

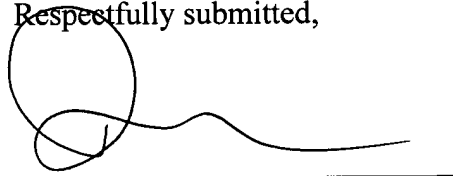
For at least these clear technical and legal errors, Applicants urge that Walton fails to disclose each and every limitation of independent claim 1. As such, it is respectfully requested that the rejection of claim 1 is incorrect and should be withdrawn. Likewise, dependent claims 12, 15, 18, and 51-53 should be allowed on similar grounds, as well as for the respective limitations recited within these claims. Withdrawal of this rejection of claims 1, 12, 15, 18, and

51-53 and reconsideration of these claims in view of the preceding explanations are respectfully requested.

Similarly, independent claims 21, 23, 24, 28, 32, 35, and 40-41, although different in scope from claim 1 and rejected on different grounds, also contains similar recitations related using a set of subbands having a bandwidth larger than the coherence bandwidth. Thus, Walton similarly fails to teach or suggest each and every limitation recited in independent claims 21, 23, 24, 28, 32, 35, and 40-41, and for at least this reason, Applicants urge that the rejection of these claims in view of Walton is clearly in error. Likewise, dependent claims 22, 25-27, 29-31, 33-34, and 36-39 should be allowed on similar grounds, as well as for the respective limitations recited within these claims. Withdrawal of this rejection of claims 21-41 and reconsideration of these claims in view of these arguments are respectfully requested due to the clear errors..

Reconsideration and withdrawal of the rejections, in view of the clear errors in the Office Action, is respectfully requested. In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

A handwritten signature in black ink, consisting of a large, stylized 'D' followed by a wavy line.

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David D. Nelson  
Registration No. 47,818

**Customer No. 32294**  
SQUIRE, SANDERS & DEMPSEY LLP  
14<sup>TH</sup> Floor  
8000 Towers Crescent Drive  
Vienna, Virginia 22182-6212  
Telephone: 703-720-7800  
Fax: 703-720-7802

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Enclosures: PTO/SB/33 Form  
Notice of Appeal  
Petition for Extension of Time  
Check No. 019100